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ABSTRACT

This document presents winners of the 2001 International School Construction News and Design Share Awards for elementary, secondary, and higher education facilities deemed to represent state-of-the-art designs. Section 1 presents an introduction and a review of the honor award winners. Section 2 includes merit award winners, an explanation of this design competition, and the jurors' critical review. Section 3 presents commentary on post occupancy evaluations by Jeffrey Lackney. (GR)

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TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

The School Construction News & Design Share Awards 2001

Commentary By Steven Bingler, AIA

The commentary is in three parts. Section one serves as an introduction, and includes a discussion of the honor awards. Section two includes merit awards, conclusions and a critical review. Section three is a discussion of Post Occupancy Evaluations by Jeffrey Lackney. Additional features and links to all projects may be accessed from the menu at left.

The Awards Program 2001, the 2nd annual international awards competition sponsored by School Construction News, Design Share, and C/S Group, included 62 projects from five countries. All projects were submitted and reviewed over the Internet, all judging was anonymous, and the jury wound up selecting winners from around the world. Top award winners -- those receiving an Honor Award -- are from Australia and Spain. Merit Awards go to schools in Singapore, Canada, and the United States. The winning projects represent the state-of-the-art in the design of elementary, secondary, and higher education facilities as well as special-use facilities.

Creativity in the designs of these buildings ran the gamut, from learning environments integrated into the fabric of the community, to architectural nuances such as small, Native American-inspired Kivas designed for student meditation. Some of the most memorable projects transcend the notion of learning environments as mere buildings, instead presenting designs that incorporate a broad range of community resources. One of the Honor Award winners, a College in Mandurah, Australia, has a spectacular learning street and art wall that blurs the boundaries between facility and curriculum streams. Another project, an elementary school in Berkeley, California, that earned a Citation Award, uses its site design to create what noted educator and jurist Dr. Anne Taylor calls "Learning Landscapes." Projects taking other paths include those using resources provided in the educational program to serve the needs of broader community constituencies. Another Honor Award winner, an Educational Cultural Community Center in Alcobendas, Spain, houses an adult Mediateque, a high-tech library that serves a working class community with limited civic resources.

Of the 62 projects under review, two were from Australia; two from Spain; two from Canada, four from Singapore and 52 from the United States. Both Australian projects and one project from Spain are Honor Award winners. Merit awards go to three schools from the United States and one school from Canada. If the winners-all very different facilities-were to share one common theme, it is that they exhibit an integrated and participatory approach to decision making during their design process.

To browse through the projects by category, select any of the links below:

Elementary | Middle | High | Special | College/University

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HONOR AWARD

Peel Education and TAFE Campus, *Mandurah, Australia*
Spowers Architects and Jones Coulter Young Architects

This project, built on the site of an existing Tertiary and Further Education (TAFE) campus, is unique for its master plan that combines senior school students, TAFE, and university students on a single campus. The facility allows adult education and vocational training to occur within one facility, therefore helping to boost student retention rates and promote the concept of lifelong learning.

A lengthy planning process brought together three, traditionally separate education providers-the education department, TAFE, and the university-to plan a flexible, coherent, and united campus. Six student-centered principles were established before beginning the design process, which included workshops, value management sessions, and a series of public consultation meetings. An environmental engineer helped with a series of passive environmental strategies that moderate climate, acoustics, natural lighting, and ventilation.

A "learning street" consolidates display, exhibition, gathering, and learning spaces within one large covered but unenclosed area, offering high visibility and easy access to learning and specialist facilities. Group discussion rooms are scattered throughout the campus in an effort to limit the "ownership" of individual curriculum areas. A "ubiquitous technology" approach to general, flexible, and group learning areas is designed to address short and long-term needs as well as the future sharing of facilities, which is likely to occur as a result of the evolving relationship between the different educational providers.

The facility's layout and design, with its internal community focus and egalitarian access for all, is key to enhancing comfort, safety, and respect for others.

An indigenous center within the TAFE facilities promotes cross-cultural interaction. The grounds include tracts of natural vegetation as part of an Indigenous Natural Heritage Zone within the horticultural studies area. Connection to the outside community also is part of the campus's master plan. Zones are set aside for development by businesses who want to partner with the school and create ties to the vocational study and workshop facilities.

HONOR AWARD

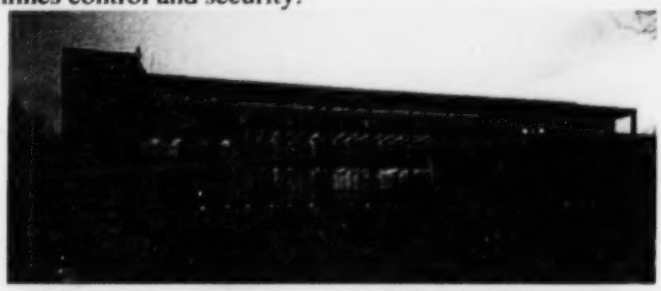
P. Iglesias Educational and Cultural Center, *Alcobendas, Spain*
BN Asociados

In the words of this project's designers: "education and culture cannot be kept inside a shell, as something for the privileged ones. Nowadays they are a sign of freedom and progress, which can and must be communicated by architecture." This line of thinking illustrates the idea that education is not an undefined concept but rather the result of community development.

Located in a lower middle-class district, the project works as an

educational institution and a civic center. Not only does the facility offer cultural activities for both students and the community, it compensates for the shortcomings of an urban plan and is situated in an area where no provisions for educational structures where made.

The facility originally was planned to symbolize the "pulsating heart of the new generations," fully equipped with the latest communication technology. It evolved into an efficient contemporary building, suitable for the requirements of a heterogeneous public, as well as a work of architecture integrated into its context within the local architectural tradition. The large, glass, north-facing facade is a powerful, symbolic force and a striking contemporary landmark. Visible behind it, the main spine of the building serves as a student center and social space, as well as a path to the rest of the building that streamlines control and security.

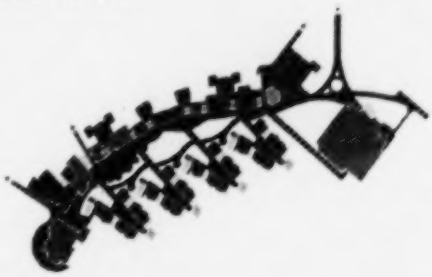


Since the building serves a variety of education, training, and cultural requirements, public authorities received some private donations, including the building's electronic equipment, which was donated by mass media and telecommunication companies. Use of the building for musical and theater events contributes to the building's maintenance funds.

HONOR AWARD

Halls Head Middle School, *Mandurah, Australia*

Spowers Architects



Designed as a community precinct, Halls Head Middle School combines educational spaces with a community recreation center, sports fields, library, and tiered lecture theatre; transition zones at each end of the school indicate public areas.

Four learning communities, each with two learning teams, have been designed so that location, form, and texture increase the idea of an identifiable 'home' for middle school students moving up from the primary school system. Spaces were designed for maximum flexibility, an idea that allows for a range of configurations and the creation of 'classroom labs.' Students use the labs-which have compressed air, gas, water, and other features-to increase self-directed learning opportunities. Group resource rooms, project rooms, and 'ubiquitous technology' also allow for flexibility.

The design process commenced with workshops on the nature of middle schooling and with meetings attended by the community and educators. During a series of public workshops and meetings, the architects presented concepts ranging from very preliminary 'opportunity and constraints' diagrams to detailed planning and three-dimensional computer 'fly-throughs.'

A Local Area Planning initiative by the Education Department was provided to give the local community a certain level of autonomy in their decision making.

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The School Construction News & Design Share Awards 2001

Section 2, Merit Awards, Conclusions & Critical Review

MERIT AWARD

Cragmont Elementary, *Berkeley, Calif.*
ELS Architecture and Urban Design

An urban setting did not prevent designers from emphasizing the importance of the environment on education. Landscaping, which includes student plantings, native plants, a community garden, and a large plaza is used as a teaching device. Play areas are organized on different terraces, following the hillside. Large windows and balconies are used to connect the classrooms, which are perched high on a hill, to the surrounding community. Special education teachers report that the calming effects of views and light have dramatically increased the attention span of students afflicted with ADD. The student body's standardized test scores also have increased by 38 percentile points one year after move-in.

Both the program and design of the school were developed in an intensive series of workshops with an active group of parents, teachers, administrators, neighbors, and students. Meetings took place every month through the design process and, less frequently, through the construction process.

As a result, the school was designed to serve as a community center, a neighborhood gathering place, and an emergency relief shelter. Outdoor common spaces, playgrounds, and plaza are used by the community.
An encouraged neighbor remarked how "the courtyard is functioning as a community square for the neighborhood." Even the building's design aesthetic creates a focal point but fits the scale of the neighborhood through the use of massing, materials, finishes, and colors.

Interior spaces were designed for maximum flexibility. Rooms on the upper level have the option of adding loft mezzanines that create spatial relationships not provided by standard classroom design. Ground-level classrooms have outdoor patios and a trellis for small, peer-teaching groups. Free-form corridors, following the hillside contours, have nodes for break-out spaces.

MERIT AWARD

Fox Run/Mother Teresa School, *Sylvan Lake, Alberta, Ontario, Canada*
Group 2 Architecture Engineering Interior Design

The Fox Run/Mother Teresa School is a multi-campus facility, incorporating a public school, a Catholic school, and a substantial community component. Through the cooperative efforts of these three partners, substantial enhancements were achieved, providing more program opportunities than traditional, individual facilities would have been able to achieve.

One of the most notable parts of the project is the extensive amount of collaboration during the design process. Three design committees met three times per week during the design stage while two additional committees focused on jurisdictional goals and objectives. One joint steering committee was responsible for maintaining balance between stakeholders, a process that involved co-design workshops with school administrators, staff, students, and board members. These workshops used small group sessions to brainstorm design priorities, which were presented and prioritized by all participants.

The final design includes a gym for community use, as well as a community office and conference room. Classrooms are oriented in groups, creating break-out areas that act as a buffer between student gathering spaces and the learning environment-a setup that provides opportunities for team teaching and collaborative student initiatives.

MERIT AWARD
Silverado Middle School, *Roseville, Calif.*
Perkins & Will

The Silverado Middle School planning process was a collaborative effort involving a taskforce of teachers, students, parents, administrators, business leaders, and community representatives. Members met with the architectural design team for the better part of a year, helping to create a building that itself is a teaching tool. Exposed structures in the classrooms demonstrate how roof trusses support weight. Slots in classroom walls allow students to see how conduits tie systems together. Labels on exterior plumbing allow students to trace the path of water, waste, and natural gas through a building. A glass-walled elevator allows students to observe the application of hydraulics.

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Educationally, the project is a manifestation of the district's efforts to address the emotional and psychological challenges of adolescence by supporting the transition from self-contained primary classrooms to departmentalized programs. To this end, special spaces were designed for student mediation of conflicts, counseling services, and health services, as well as community police services. An open studio approach to classroom design involves 13 operable walls that can be opened to create multiple oversized learning spaces.

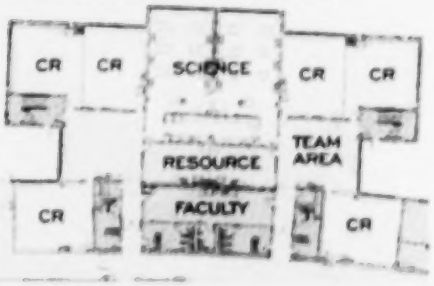
Courtyards also are important to the school's educational philosophy. Currently, the school operates one grade level per courtyard, allowing each grade to remain in its respective courtyard throughout the day. Designing classroom buildings around usable courtyard spaces encourages outdoor lessons and allow for changes in the educational programs. The school itself is situated adjacent to a city park, allowing the school to double as a community center.

MERIT AWARD

Bedford Middle School, *Westport, Conn.*

Jeter, Cook & Jepson Architects

The Bedford Middle school is sited on a previously undeveloped parcel linking the existing high school with an established public park. New walking trails and additional athletic facilities turned the once-isolated facilities into a neighborhood and town-wide resource. The school's commons area serves as a public forum for community meetings and the auditorium, media center, and gymnasium all are designed for after-hours use. A parent/community room near the main entry provides a home within the school for various groups during the school day.



The school is designed to support communities of collaborative learners, with all subject and support areas-academic teams, art, music, athletics, and administration-clustered around the commons. The commons itself contains the media center, cafeteria, and access to an outdoor courtyard. Each academic team is self-contained, with a team area linking the science labs, classrooms, and restrooms. Team areas are linked vertically with the team below and have windows looking into the classrooms as well as to the outdoors.

The layout also provides passive security; the entire main hallway system is visible from almost any part of the commons and administrative functions are decentralized with a staffed office at each entry.

The school's design and site plan were worked on in more than 100 individual and group workshops, made up of neighbors, parents, elected officials, faculty, and staff. Students and faculty from the existing middle school assisted in the creation and testing of a team area "mock-up," helping to evaluate the size and configuration of that aspect of the school. Every material, system, and space in the school was reviewed for efficiency and adaptability.

The review process resulted in a project that was more than $3 million under initial estimates with additional energy rebates of more than $200,000.

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Conclusions

One could surmise that the purpose of design competitions is to promote the development and dissemination of innovation-and this year's competition is no exception. The projects represented in the Honor and Merit Award categories exhibit a new kind of thinking that transcends the limits of the stand-alone classrooms or the large-scaled isolation of what architect and juror Bruce Jilk has termed the "Citadel" school building. In addition to the three Honor and four Merit Award projects, 10 additional projects received Citations. Another 21 projects were identified as having Recognized Value in the ongoing dialogue about the design of more relevant and effective learning environments.

We must also keep in mind that what has been accomplished must always be measured by the balance of the work that remains to be done. In the context of the total competition, some projects were thought to have not gone far enough in the search for new and better designs for learning. And, as educational delivery systems and the environments that support them continue to evolve-incorporating more integrative and participatory concepts-it is clear that new tools are needed in an effort to meet the rigorous demands.

Critical Review

Making this awards program unique is its mission to focus less on aesthetics and more on the design of effective learning environments, a goal that allows the jurors some room for critical review.

Jurists noted that, in spite of the large number of entries, many designers did not push the limits of school design. "I think that by-and-large, we are still looking at building types that have the sameness about them, with teacher centered classrooms," notes juror Dr. Anne Taylor. "In some instances the furniture, tables, chairs, lockers, and configuration of computers lined up against the wall do not bespeak innovation or newness, but rather the sameness of 'school' packaged in newer boxes with newer materials," she says. Her observations also were supported by architect and fellow juror Prakash Nair, who observed that "unfortunately, only a small number of designs tries to challenge the pre-eminence of the classroom itself as the seat of all learning. Even where many alternative places to learn are provided, the classroom remains a very traditional teacher-centered space." Nair also commented on limitations in the use of technology in project designs: "There is some lip-service paid to the power of technology, but for the most part, we are still measuring progress by the number of data ports provided in each classroom or the number of empty conduits that bring some technology into the classroom."

Juror comments also reflect the positive:

"I would like to see less repetitive traditional classrooms and some credit given to planning for some classrooms to be design studios, museums, cultural centers, greenhouses, animal husbandry places...not just the same old classrooms." *Anne Taylor*

"The L-shaped classroom, the Kiva, and the cluster classrooms shown in the Singapore school, and others like them, were adept at addressing the idea of daily change." *Prakash Nair*

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Understanding the Importance of Post Occupancy Evaluations

School Construction News & Design Share Awards 2001

By Jeffrey Lackney, R.A., Ph.D.

Lasting change and innovation comes from the reflection of past experiences and the application of that knowledge to future projects. The Awards Program
2001 program emphasizes post-occupancy evaluations (POEs) in an effort to share with educational and architectural practitioners those lessons learned by designers who entered their schools into competition.

The jury was looking forward to reviewing the POEs, but unfortunately, only nine out of 62 project were submitted with complete post-occupancy evaluations. Interestingly enough, six of those nine projects ended up receiving awards. The correlation is clear: exemplary projects are not only expertly planned and executed, their designers see the value in evaluating a project and applying what they learn to future projects-they learn from experience what makes a school great.

A few caveats: there is a recognized tendency for architectural firms to submit projects for awards before the facilities are built or occupied. Waiting a year to conduct an evaluation before publishing is obviously not common practice. Additionally, most POEs emphasize what works rather than what does not. Admittedly, it is difficult to emphasize weaknesses without the fear of lost credibility. And, for the most part, new buildings are always going to be more satisfying to their occupants than the old building, which is why POEs are conducted at least after a full year of occupancy. Finally, discovering how well a building really works is a difficult task, one that is even more difficult to represent in a brief statement and survey advocated by this competition.

In lieu of discussing the merits of any one post-occupancy evaluation, I would rather discuss elements of the POEs submitted for this competition and the lessons we can all learn from them.

The Hypothesis of Design

While it appears some projects did not have a POE in mind when their planning and design criteria were developed, the process of linking evaluations and design is, in general, not typical for the practice of architecture. However, many submittals had hypotheses implicitly stated in project descriptions-even if they were not followed up on with a POE.

For example, one project, Merit Award-winning Cragmont Elementary (this page), submitted a hypothesis that read, "the small size of the school and its embracing architecture is the best security, promoting a sense of belonging and community in a very diverse student population." The POE did not provide data to support that hypothesis, but the information to prove it may not exist and it may be impossible to qualify.

A project that successfully tested its hypothesis is the Ipswich Middle/High School, which Flansburgh & Associates designed with "kivas.".

The firm hypothesized that kivas would "give students a casual, comfortable venue to present their ideas without the usual awkwardness and inconvenience of getting up on stage in front of an audience. The design promotes collaboration, visibility, and community, making it difficult for students to disengage or go unnoticed."

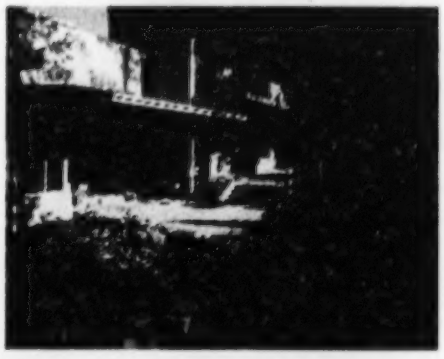
The Ipswich POE provides supporting information, reporting that one teacher says "the kiva teaching area in the middle is a coveted teaching space." Another teacher explains that "kiva are a favorite spot for students and the students are involved in exciting and meaningful learning experiences."

What I cannot stress enough, though, is that proof of a hypothesis is not as noteworthy-or encouraging-as the fact that these issues are being framed as criteria early in the process of design. The problem of social alienation and school climate and culture is a critical one, and one that several projects, in addition to Ipswich, attempted to address through design.

Another hot issue tested within these projects is the role of natural daylighting and how it enhances the process of learning.

The Cragmont project was expressly interested in "highlighting natural materials and abundant natural light in classrooms to provide a better learning environment." Designers accomplished the task using a series of bay windows in each classroom that bring natural light deep into classroom spaces. Special education teachers reported "a marked improvement in the attention span of ADD students, due to the calming effects of views and light."

Interestingly, the Cragmont POE points out that one side effect to the light-giving bay windows is that classrooms can get hot and the temperature is difficult to control. One explanation for this difficulty is suggested by a central, district-controlled heating system. This finding raises questions of personal comfort control and can be used to enact improvements at Cragmont or future schools designed by the firm.



The POE for the Palmer HDFS Building at Iowa State University reports that one explicit criterion was to create an overall design that "strives to be calm, relaxing, and comfortable to heighten the ideas of warmth and family." The hypothesis suggested the effect would be accomplished through the proper use of color, chosen for its comforting effects, and a waterfall, selected for the creation of soft, white noise that calms those waiting for family therapy sessions. The building is designed with operable windows and HVAC

systems that pumps optimal fresh outdoor air into the building, which itself is constructed of materials selected because of their minimal negative impact on indoor air quality.

The Palmer HDFS Building POE, reports that "adults speak most favorably about the lighting and beauty of the building spaces through the use of natural (Iowa) materials and products."

The hypothesis explored by Wilson Elementary, a school designed by Charney Architects of New Haven, Conn., concerned L-shaped classrooms with variable-height ceilings and direct and indirect lighting that "create different zones within a single room emphasizing activity-based learning." Additional commentary says the rooms have the "ability to address changing educational programs..." One teacher addressed that design feature, saying, "I now have room to spread out with the kids working on the floor in designated areas in the room, leaving things out until finished, corners set up for special projects, and larger areas of displays."